

**IN THE CLAIMS**

Please cancel claims 1-11. A list of the pending claims is provided below.

1-11 (Cancelled).

12. (Previously presented) In a network comprising a plurality of nodes, a method for assigning a different network address to each node of the plurality of nodes, the method comprising each node performing:

periodically broadcasting a unique identifier for the node to other nodes of the plurality of nodes, wherein each node has a different unique identifier;  
receiving unique identifiers for the other nodes; and  
in an address table comprising a plurality of records, each record corresponding to one of the nodes in the plurality of nodes and including a unique identifier for the node and a network address for the node:  
if a record containing the unique identifier does not exist,  
creating a new record and  
inserting the received unique identifier into the record; and  
if a record containing the unique identifier does exist,  
updating the record; and  
reassigning the network addresses in the records based on the unique identifiers in the records, wherein each node of the plurality of nodes determines which network address to assign to each record in a common predetermined manner.

13. (Previously presented) The method of claim 12, wherein reassigning the network addresses in the records comprises:

determining which records are unexpired; and

reassigning the network addresses only for unexpired records.

14. (Previously presented) The method of claim 12, wherein reassigning the network addresses in the records comprises reassigning the network addresses only when a new record is created.

15. (Previously presented) The method of claim 12,  
wherein the record for a node further includes a time to live field indicating a time remaining until an expiration of the record; and  
wherein updating the record comprises resetting the time to live field for the record.

16. (Previously presented) The method of claim 15,  
wherein periodically broadcasting a unique identifier to the other nodes comprises all nodes of the plurality of nodes broadcasting their unique identifiers once per a time interval; and  
wherein resetting the time to live field comprises resetting the time to live field to a value at least two times as long as the time interval.

17. (Previously presented) The method of claim 15, wherein reassigning the network addresses in the records comprises:  
marking a record as expired when the time to live field for that record expires; and  
reassigning the network addresses only for unexpired records.

18. (Previously presented) The method of claim 12, further comprising proxying the unique addresses for records which have expired but have not been purged.

19. (Previously presented) In a network comprising a plurality of nodes, a method for assigning a different network address to each node, the method comprising each node

performing the steps of: periodically broadcasting a unique identifier for the node to the other nodes, wherein each node has a different unique identifier; receiving unique identifiers for the other nodes; and in an address table comprising a plurality of records, each record corresponding to one of the nodes and including a unique identifier for the node and a network address for the node: if a record containing the unique identifier does not exist, creating a new record and inserting the received unique identifier into the record; and if a record containing the unique identifier does exist, updating the record; and reassigning the network addresses in the records based on the unique identifiers in the records, wherein each node determines which network address to assign to each record in a common predetermined manner;

wherein: the unique identifier includes a Media Access Control (MAC) address and the network address includes an Internet Protocol (IP) address; the nodes are coupled to form a ring; the record for a node further includes a time to live field indicating a time remaining until expiration of the record; the step of periodically broadcasting a unique identifier to the other nodes comprises, at each node: receiving the MAC address; storing the MAC address and retransmitting the MAC address to a next node on the ring, if the node did not originate the broadcast of the MAC address; and not retransmitting the MAC address, if the node did originate the broadcast of the MAC address; the step of updating the record comprises resetting the time to live field for the record; and the step of reassigning the network addresses in the records comprises: marking a record as expired when the time to live field for that record expires; and sequentially assigning IP addresses only for unexpired records and only when a new record is created.

20. (Previously presented) The method of claim 12, wherein each node in the plurality of nodes independently determines a network address for at least each other node in the plurality of nodes using the periodically broadcast unique identifiers from each of the other nodes in the plurality of nodes and using the common predetermined manner.

21. (Cancelled).